SONY

3-758-463-11(1)

Electronic Crossover Network

XEC-505

Operating Instructions page 2

Before operating the unit, please read this manual thoroughly and retain it for future reference.

Manual de instrucciones página 12

Antes de utilizar la unidad, lea este manual detenidamente y consérvelo para futuras referencias.

Bedienungsanleitung page 22

Lesen Sie vor der Inbetriebnahme diese Anleitung sorgfältig durch und bewahren Sie sie zum späteren Nachschlagen gut auf.

操作説明書 第32頁

使用本機之前，請詳細閱讀此說明書，并請保留好以備將來參考。

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English

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Features

- Linear phase filters* (Bessel function type) realize natural and equal sound levels in and around the passband frequency.
- The sound balance of the front and rear speakers can be adjusted without affecting the subwoofer sound.
- 40 Hz low boost control allows dynamic bass reproduction.

* Linear phase filters (Bessel function type)
Most of the channel dividers currently available employ flat response filters (Butterworth type). The group delay characteristic of this type of filters is much worse than that of the linear phase filters, and this causes transient distortion in the audio signals at each filter's crossover frequency. To reduce that distortion and to obtain hi-fi sound, linear phase filters (Bessel function type) are used for the XEC-505.

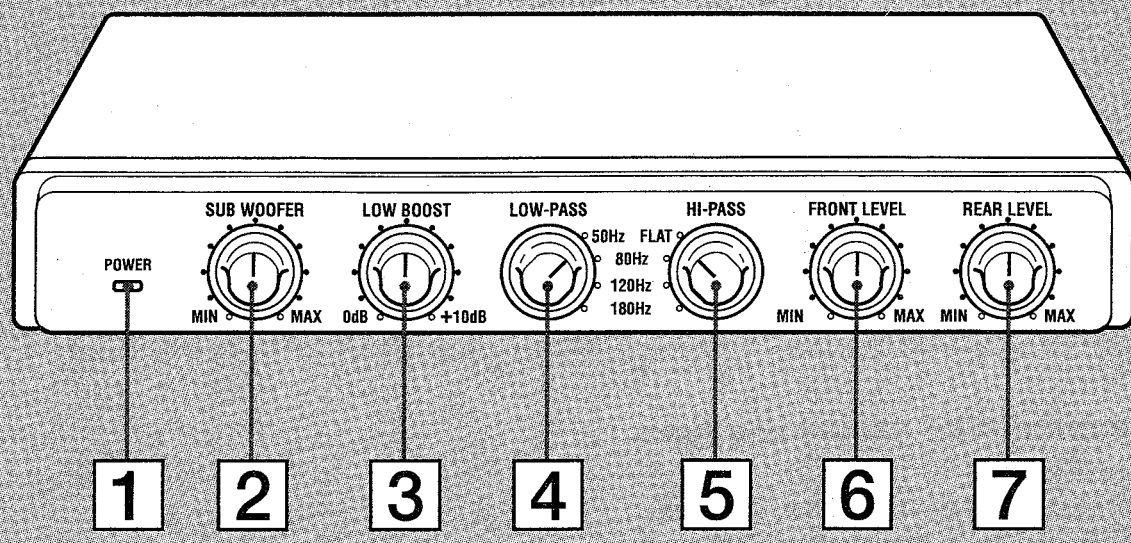
Precautions

- This unit is designed for negative ground 12 V DC operation only.
- Avoid installing the unit where:
  —it would be subject to high temperatures, such as from direct sunlight or hot air from the heater
  —it would be exposed to rain or moisture
  —it would be subject to dust or dirt.
- If your car is parked in direct sunlight and there is a considerable rise in temperature inside the car, allow the unit to cool off before operating.

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

Location and Function of Controls

Front panel



1 **POWER indicator**

2 **SUB WOOFER output level control**
Turn to adjust the output level of the SUB WOOFER OUTPUT.

3 **LOW BOOST level control**
Turn to boost the frequencies around 40 Hz at the maximum of 10 dB.

4 **LOW-PASS (low-band crossover point) selector**
Turn to set the crossover frequency above which it will be cut off.

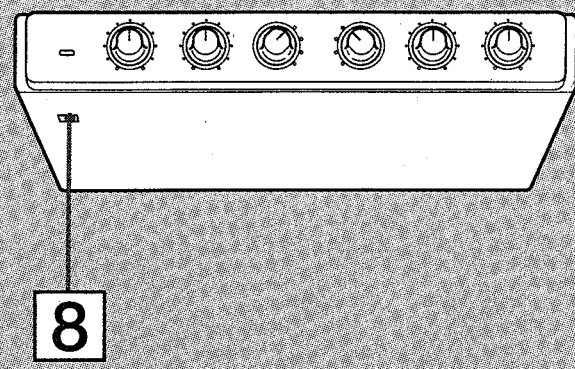
5 **HI-PASS (high-band crossover point) selector**
Turn to set the crossover frequency below which it will be cut off.

6 **FRONT LEVEL control**
Turn to adjust the output level of the FRONT OUTPUT.

7 **REAR LEVEL control**
Turn to adjust the output level of the REAR OUTPUT.

Location and Function of Controls

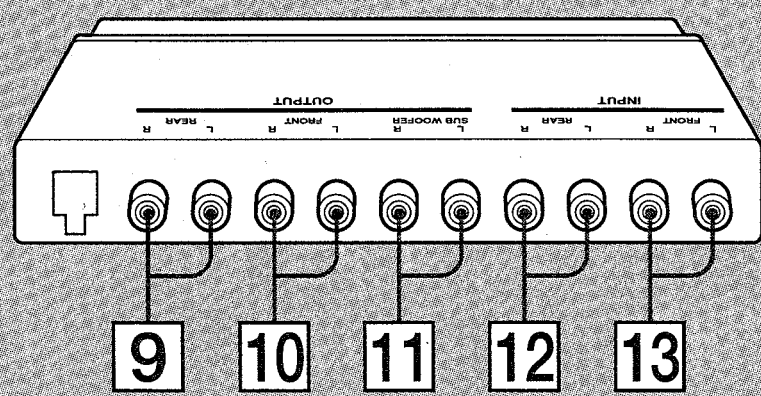
Bottom



8 SUB WOOFER F&R / F (front and rear / front) selector

Use this to select the output from the SUB WOOFER OUTPUT. Set it to the F&R position to obtain the summation of signals from the FRONT INPUT and REAR INPUT, or set it to the F position to obtain only signals from the FRONT INPUT.

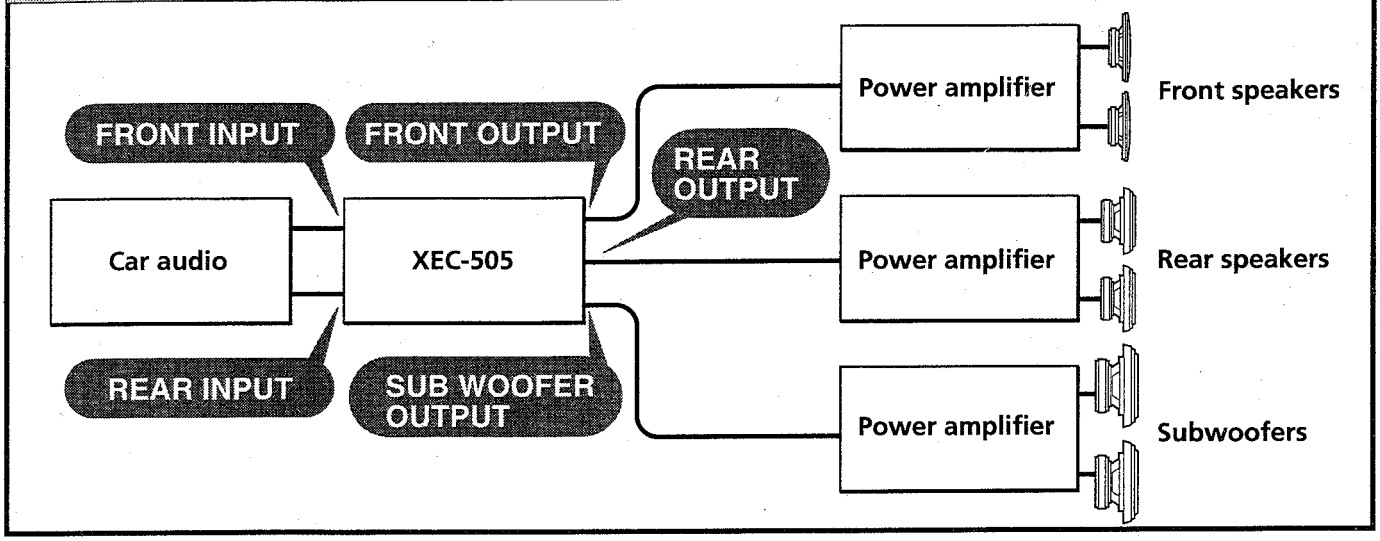
Rear



9 REAR (R/L) OUTPUT jacks
10 FRONT (R/L) OUTPUT jacks
11 SUB WOOFER (R/L) OUTPUT jacks
12 REAR (R/L) INPUT jacks
13 FRONT (R/L) INPUT jacks

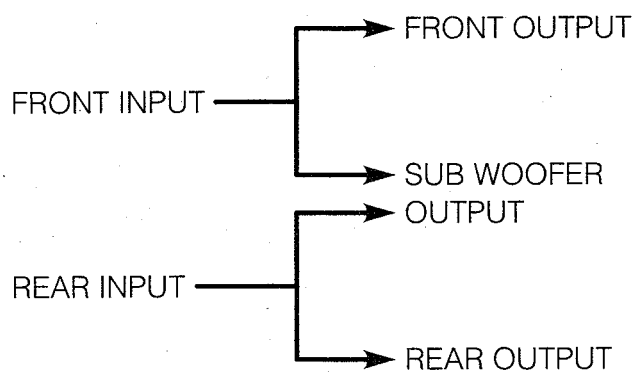
Example of System Configuration

6-speaker System

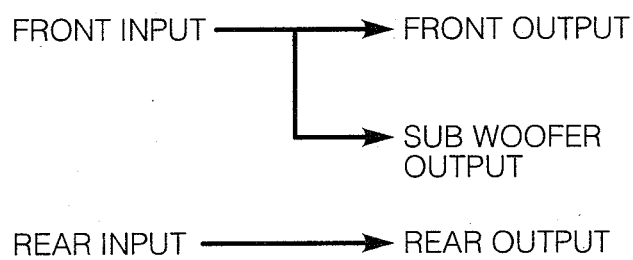


This system consists of the car audio with two line outputs, three power amplifiers and three pairs of speakers. In this system, the signals flow as follows:

- **When the SUB WOOFER F&R / F selector is set to the F&R position**

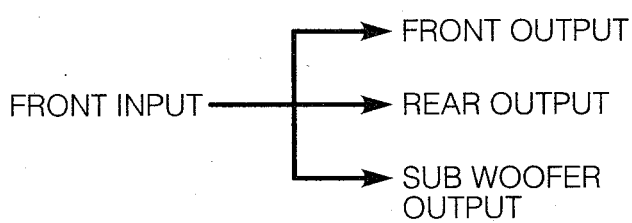


- **When the SUB WOOFER F&R / F selector is set to the F position**



To use the car audio equipped with only a pair of line outputs

Connect the outputs of the car audio to the FRONT INPUT jacks. The signals flow as follows:



Note

Be sure to connect the outputs of the car audio to the FRONT INPUT jacks when the car audio with only a pair of line outputs is used.

Installation

Supplied Mounting Hardware

The letters in the list are keyed to those in the instructions.

Ⓐ

M4 x 6 (4)

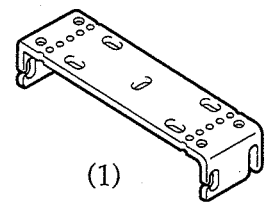
Ⓑ

ø5 x 20 (4)

Ⓒ

(4)

Ⓓ



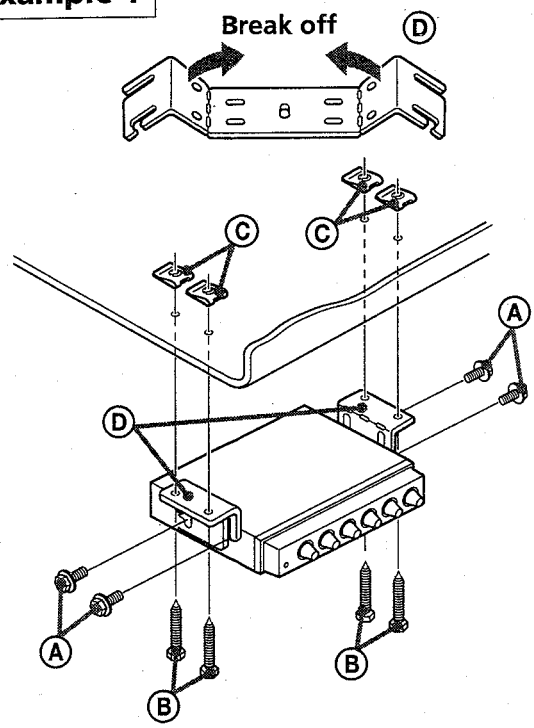
(1)

Precautions

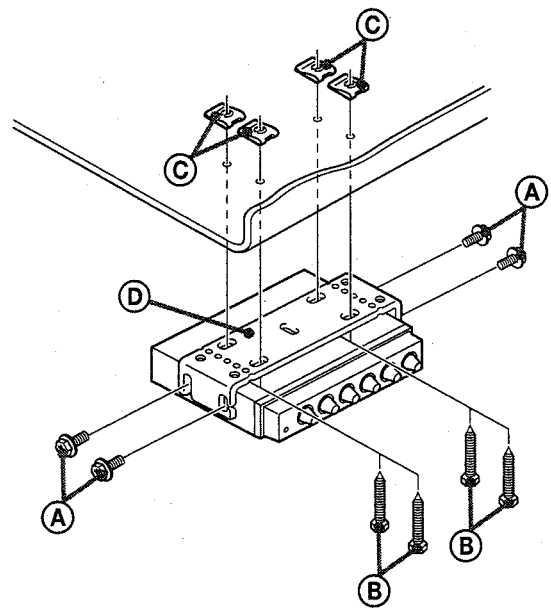
- Be sure to select the setting of the SUB WOOFER F&R / F selector on the bottom of the unit before installing the unit.
- Choose the mounting location carefully so that the unit will not interfere with the normal driving functions of the driver.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight or hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for a safe and secure installation.

Mounting Examples

Example 1



Example 2



Use the supplied mounting hardware.

1 Mark the locations of the holes on the bottom of the dashboard using the part Ⓓ as a template.

2 Drill 3 mm bolt holes.

3 Secure the pieces of the part Ⓓ which are broken off to the bottom of the dashboard*.

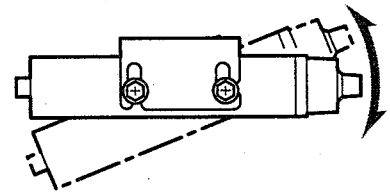
4 Secure the unit to the part Ⓓ.

* If the dashboard or the fire wall is thin or made of plastic or a similar material, secure the unit with tapping screws and tinnerman clips Ⓒ. If it is made of metal plate, the tinnerman clips are not necessary.

Notes

- Be sure to use the supplied bolts Ⓐ for mounting the part Ⓓ on the unit. Longer bolts will damage the unit.
- Be careful not to damage wiring or equipment on the other side of the fire wall.

The mounting position, height and angle can be adjusted as illustrated below.



Connections

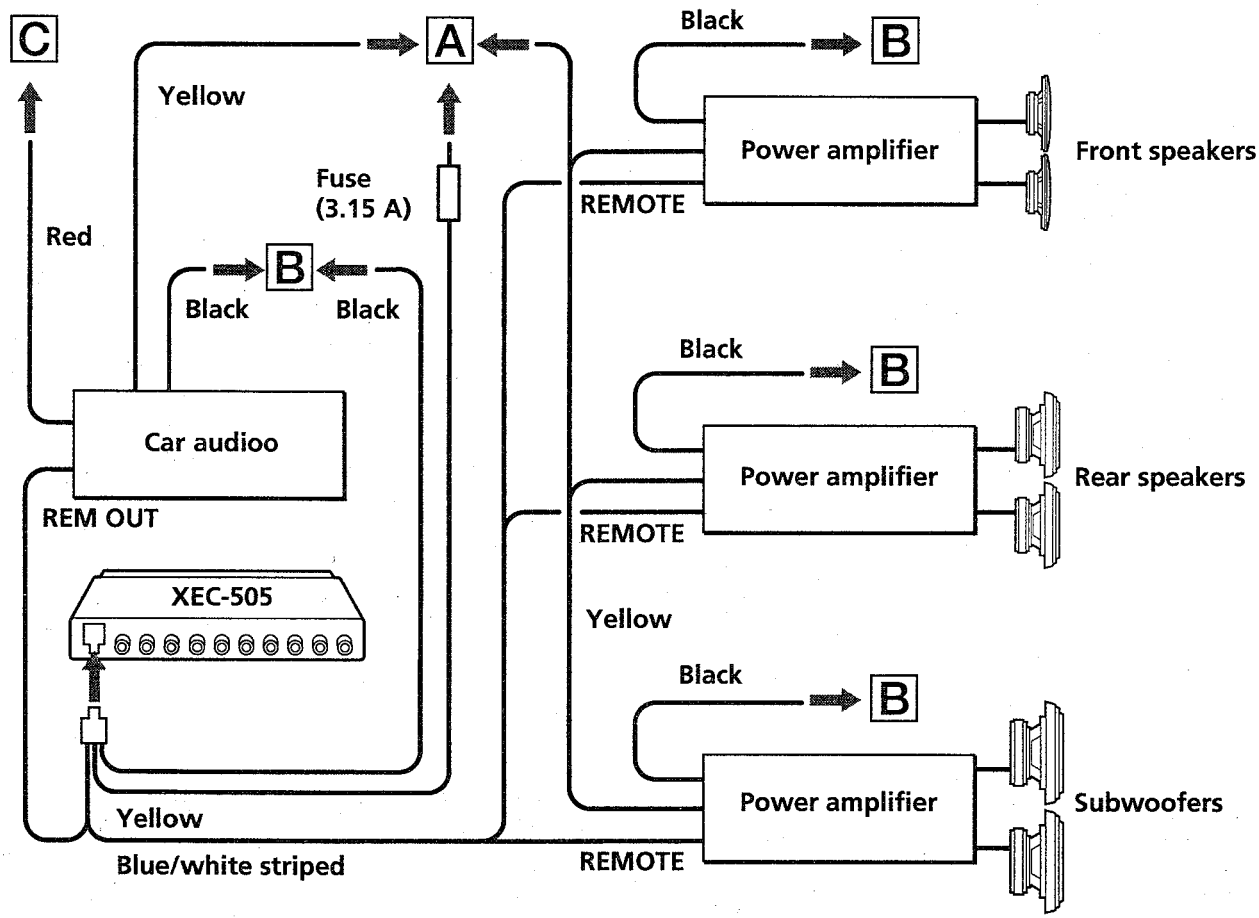
Caution

- This unit is designed for negative ground 12 volt DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the yellow power input lead only after all other leads are connected. And be sure to connect it to the positive 12 volt power terminal.
- **Run all ground wires to a common ground point.**

Note on amplifier and program source connection

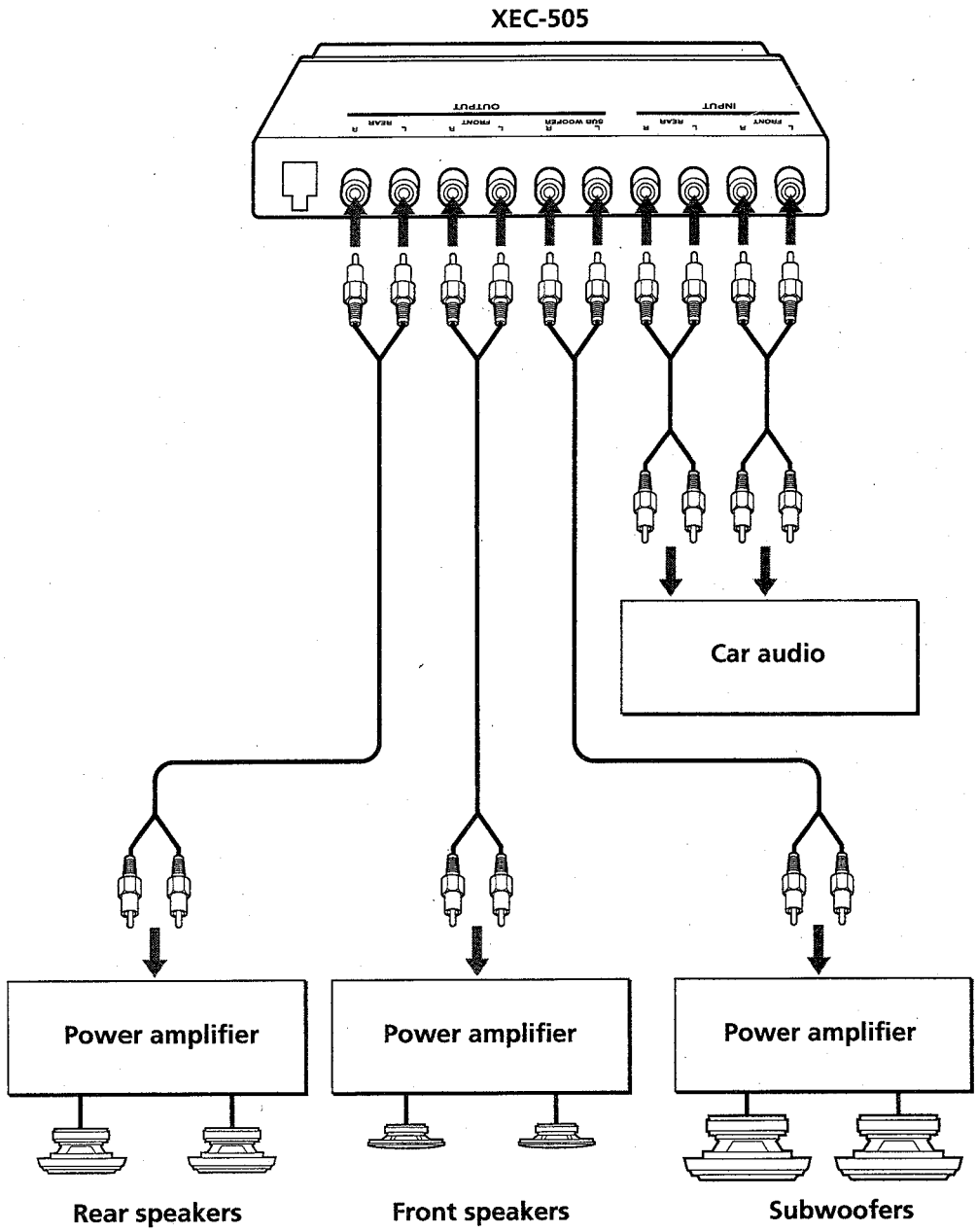
The red jacks of the unit are for right-channel connection and the white jacks for the left-channel.

Power Connection Example



A To the ⊕ (positive) terminal of the car battery
B To a metal part of the car
C To the ⊕ (positive) terminal which is energized when the ignition key is turned in the accessory position

Signal Connections Example



Specifications

Crossover frequency
HI-PASS (for FRONT and REAR outputs): FLAT, 80, 120, 180 Hz
LOW-PASS (for SUB WOOFER outputs): 50, 80, 120, 180 Hz
Gain 0 dB
+6 dB (Subwoofer)
Harmonic distortion
less than 0.005%
Signal-to-noise ratio
more than 105 dB
Frequency response
5 Hz to 100 kHz ($^{+0}_{-3}$ dB)
Crossover slope -12 dB/oct
-18 dB/oct (Subwoofer)
Bass boost 0 to +10 dB (40 Hz)

General

Inputs Remote control input
Power input
Line input (phono jack 4)
Outputs Line outputs (phono jack 6)
Power requirements
12 V DC car battery (negative ground)
Current drain 220 mA
Input remote current
4 mA
Mounting dimensions
Approx. 178 x 25 x 110 mm (w/h/d)
Mass Approx. 0.6 kg
Supplied accessories
Mounting hardware (1 set)
Power connecting leads (1 set)

Optional accessories

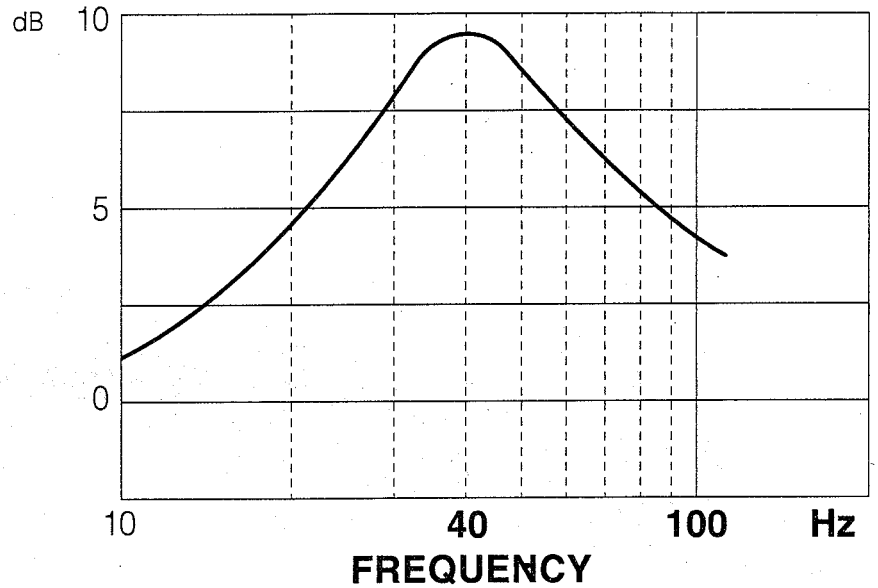
Connecting cord RK-C510KS (1 m), RK-C505KS (0.5 m)

Design and specifications are subject to change without notice.

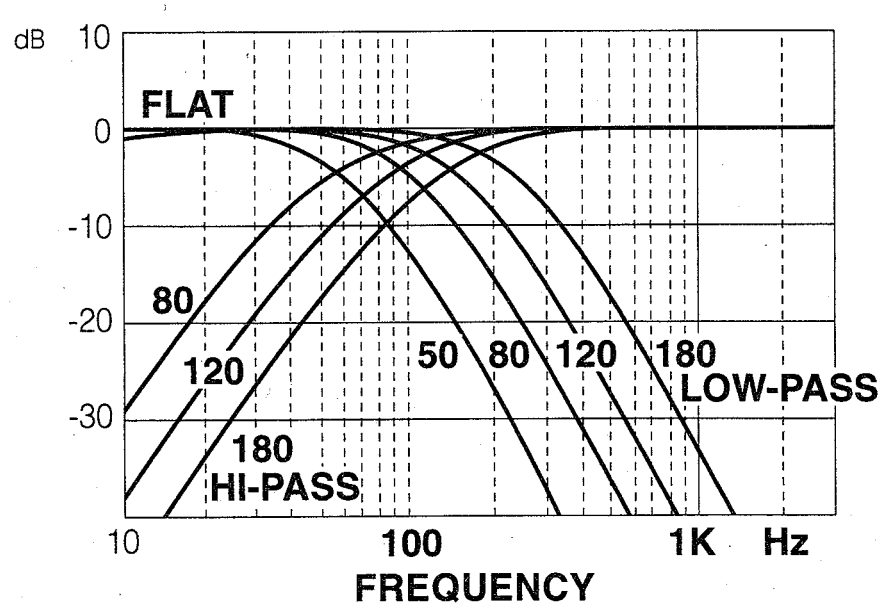
For details on the low boost, crossover frequency, and the block diagram of the unit, refer to the pages below.

Low boost response curve 42
Crossover point response curve 42
XEC-505 Block diagram 43

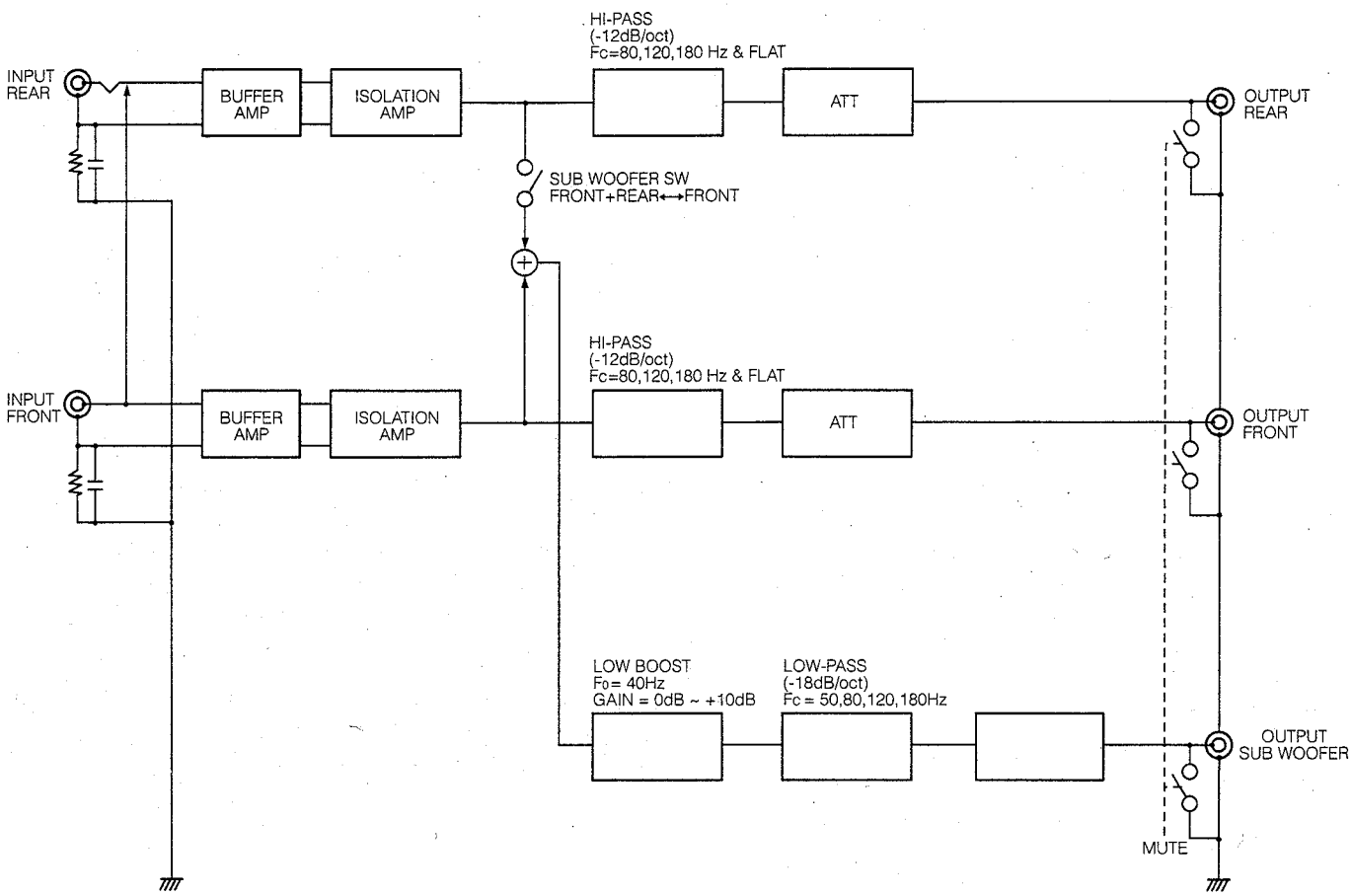
Low Boost Response Curve
Curva de respuesta de refuerzo de graves
Frequenzgang (Baßanhebung)
重低音提昇響應曲線



Crossover Point Response Curve
Curva de respuesta del punto de cruce
Frequenzgang (Übernahmefrequenzen)
分隔頻率點響應曲線



XEC-505 Block Diagram
Diagrama en bloques del XEC-505
Blockdiagramm des XEC-505
XEC-505方框圖

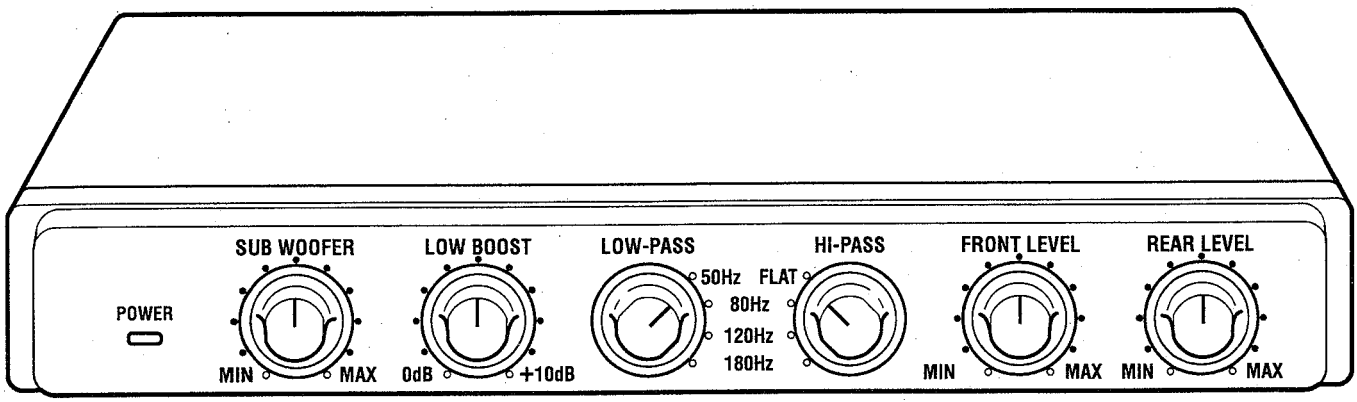


For your reminder, record your setting values in the illustration below.

A modo de memorando, anote los valores ajustados en la ilustración siguiente.

Als Erinnerungshilfe tragen Sie die vorgenommenen Einstellungen in die folgende Abbildung ein.

爲了便于記憶，可將您所設定之值記在下圖中



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